

JDW:klp 07/20/06 513918.doc.doc 102-020
PATENTAttorney Reference Number 1011-64535-01
Application Number 09/883,838**Remarks**

Applicants respectfully request reconsideration of the present application in view of the foregoing amendments and the following remarks. Claims 1-40 remain pending. No claims have been allowed. Claims 1 and 39 are independent. Claims 1, 23, and 39 have been amended.

***Patentability of Claims 1-5, 7-20, 22-29, 32, 34, 35, and 37 over Klein in view of
Rajsuman under 35 U.S.C. § 103(a)***

Claims 1-5, 7-20, 22-29, 32, 34, 35, and 37 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,768,567 to Klein et al. ("Klein") in view of U.S. Patent No. 6,678,645 to Rajsuman et al. ("Rajsuman"). These rejections are respectfully traversed.

Claim 1

Independent claim 1 is directed to a method, and requires: "selectively activating and deactivating particular simulation domains that each comprise at least one simulation model in a simulation environment such that a resolution and a performance for a circuit design being simulated is dynamically modified, wherein each of the particular simulation domains operates at the same time, and wherein each of the particular simulation domains operates at a different frequency" (emphasis added).

Klein states that "[i]n accordance to the present invention, co-simulation of a hardware-software system is performed with a **single coherent view** of the memory of the hardware-software system" (col. 2, lines 59-62, emphasis added). Klein also states that "[i]n accordance to the present invention, co-simulation of a hardware-software system is also performed . . .

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optionally with the co-simulation optimization manager maintaining **a desired clock cycle ratio between hardware and software simulations**" (col. 3, lines 14-20, emphasis added). As such, Klein fails to teach or suggest selectively activating and deactivating particular simulation domains, wherein each of the particular simulation domains operates at the same time, and wherein each of the particular simulation domains operates at a different frequency, as recited in independent claim 1.

Applicants respectfully submit that Rajsuman fails to cure the deficiencies of Klein. Furthermore, Applicants respectfully submit that there is no motivation to combine Klein with Rajsuman.

Therefore, Applicants respectfully request that neither Klein nor Rajsuman, alone or in combination, teach or suggest the limitations of independent claim 1. Accordingly, Applicants respectfully request that the 35 U.S.C. § 103(a) rejection of independent claim 1 be withdrawn.

Claims 2-5, 7-20, 22-29, 32, 34, 35, and 37

Dependent claims 2-5, 7-20, 22-29, 32, 34, 35, and 37 depend directly or indirectly from independent claim 1 and are allowable for at least the reasons recited above with respect to their parent claim 1. Moreover, claims 2-5, 7-20, 22-29, 32, 34, 35, and 37 recite combinations of features that are independently patentable. Accordingly, Applicants respectfully request that the 35 U.S.C. § 103(a) rejections of dependent claims 2-5, 7-20, 22-29, 32, 34, 35, and 37 be withdrawn.

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***Patentability of Claims 6, 36, and 38 over Klein in view of Rajsuman in further view of
Barnett under 35 U.S.C. § 103(a)***

Dependent claims 6, 36, and 38 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,768,567 to Klein et al. ("Klein") in view of U.S. Patent No. 6,678,645 to Rajsuman et al. ("Rajsuman") in further view of U.S. Patent No. 6,223,144 to Barnett et al. ("Barnett"). These rejections are respectfully traversed.

Dependent claims 6, 36, and 38 depend directly or indirectly from independent claim 1 and are allowable for at least the reasons recited above with respect to their parent claim 1. Furthermore, Barnett fails to cure the deficiencies of Klein and Rajsuman. Moreover, claims 6, 36, and 38 recite combinations of features that are independently patentable. Accordingly, Applicants respectfully request that the 35 U.S.C. § 103(a) rejections of dependent claims 6, 36, and 38 be withdrawn.

***Patentability of Claim 21 over Klein in view of Rajsuman in further view of Rush under 35
U.S.C. § 103(a)***

Dependent claim 21 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,768,567 to Klein et al. ("Klein") in view of U.S. Patent No. 6,678,645 to Rajsuman et al. ("Rajsuman") in further view of U.S. Patent No. 5,742,181 to Rush ("Rush"). This rejection is respectfully traversed.

Dependent claim 21 depends indirectly from independent claim 1 and is allowable for at least the reasons recited above with respect to its parent claim 1. Furthermore, Rush fails to cure the deficiencies of Klein and Rajsuman. Moreover, claim 21 recites a combination of features

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that is independently patentable. Accordingly, Applicants respectfully request that the 35 U.S.C. § 103(a) rejection of dependent claim 21 be withdrawn.

***Patentability of Claims 30, 31, and 33 over Klein in view of Rajsuman in further view of Patel
under 35 U.S.C. § 103(a)***

Dependent claims 30, 31, and 33 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,768,567 to Klein et al. ("Klein") in view of U.S. Patent No. 6,678,645 to Rajsuman et al. ("Rajsuman") in further view of U.S. Patent No. 5,546,562 to Patel ("Patel"). These rejections are respectfully traversed.

Dependent claims 30, 31, and 33 depend directly or indirectly from independent claim 1 and are allowable for at least the reasons recited above with respect to their parent claim 1. Furthermore, Patel fails to cure the deficiencies of Klein and Rajsuman. Moreover, claims 30, 31, and 33 recite combinations of features that are independently patentable. Accordingly, Applicants respectfully request that the 35 U.S.C. § 103(a) rejections of dependent claims 30, 31, and 33 be withdrawn.

***Patentability of Claims 39 and 40 over Fordham in view of Oydryna
under 35 U.S.C. § 103(a)***

Claims 39 and 40 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,136,528 to Fordham et al. ("Fordham") in view of "A Workstation-Mixed Model Circuit Simulator" by Oydryna et al. ("Oydryna"). These rejections are respectfully traversed.

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Independent claim 39 is directed to a machine readable storage medium, and requires:
"selectively activating and deactivating particular simulation domains that each comprise at least one simulation model in a simulation environment such that a resolution and a performance for a circuit design being simulated is dynamically modified, wherein each of the particular simulation domains operates at the same time, and wherein each of the particular simulation domains operates at a different frequency" (emphasis added).

As noted in the Office Action, Fordham states that:

The common denominators of most simulated systems are that such systems generally have indicator or lamp assemblies, relays, or circuit breakers which are activated or deactivated in accordance with certain conditions of the system, switches which make or break signal paths to provide selected control to the system, and position controls, such as joy sticks, steering wheels, track balls, or potentiometers, which set or control signals or signal levels in the system or position mechanical or electromechanical devices associated with the system (col. 2, lines 20-31, emphasis added).

As such, Applicants respectfully submit that Fordham does not teach or suggest activating and deactivating simulation domains. Also, Fordham does not appear to concern itself with any circuit design, much less activating and deactivating particular simulation domains such that a resolution and a performance for a circuit design being simulated is dynamically modified. Thus, Fordham fails to teach or suggest selectively activating and deactivating particular simulation domains that each comprise at least one simulation model in a simulation environment such that a resolution and a performance for a circuit design being simulated is dynamically modified, much less wherein each of the particular simulation domains operates at the same time and wherein each of the particular simulation domains operates at a different frequency, as recited in independent claim 39.

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Applicants respectfully request that Oydryna fails to cure the deficiencies of Fordham. Furthermore, Applicants respectfully submit that there is no motivation to combine Fordham with Oydryna.

Therefore, Applicants respectfully request that neither Fordham nor Oydryna, alone or in combination, teach or suggest the limitations of independent claim 39. Accordingly, Applicants respectfully request that the 35 U.S.C. § 103(a) rejection of independent claim 39 be withdrawn.

Claim 40

Dependent claim 40 depends directly from independent claim 39 and is allowable for at least the reasons recited above with respect to its parent claim 39. Moreover, claim 40 recites a combination of features that is independently patentable. Accordingly, Applicants respectfully request that the 35 U.S.C. § 103(a) rejection of dependent claim 40 be withdrawn.

Request for Interview

If any issues remain, the Examiner is formally requested to contact the undersigned attorney prior to issuance of the next Office Action in order to arrange a telephonic interview. It is believed that a brief discussion of the merits of the present application may expedite prosecution. Applicants submit the foregoing Response so that the Examiner may fully evaluate Applicants' position, thereby enabling the interview to be more focused.

This request is being made under MPEP § 713.01, which indicates that an interview may be arranged in advance by a written request.

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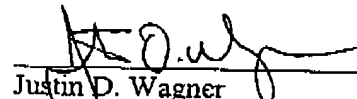
Conclusion

The claims in their present form should be allowed. Such action is respectfully requested.

Respectfully submitted,

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